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Title : Estimation of Aerodynamic Derivatives of Missiles from Range and Simulated Data Using Non-linear Maximum Likelihood Method.		Document No. PD-SE-8803 Date of issue: FEB 1988
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Abstract :

This document contains the results of estimation of aerodynamic derivatives of (i) the AGARD standard ballistic model HB-2 from supersonic free flight data and (ii) a Trishul full scale model from 6-DOF simulation data.

A hybrid type of formulation for the 6-DOF non linear equations of motion is employed , wherein aerodynamic force and moment representations are in wind-axis and body axis coordinate systems respectively for the AGARD model.

For the simulated data, the equations of motion are solved in fin-axis system with various transformations required between fin and body axis systems.

Estimation results generated are based on non linear Maximum Likelihood method of Identification. The results for both the longitudinal and lateral stability derivatives of the AGARD model and the Trishul model, demonstrate the suitability and power of the model and the functional adequacy of the mathematical models used.